

CELESTIAL HARVEST SHOWPIECE ROSTER

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Below are 300 of the finest deep-sky treasures for viewing and exploration with telescopes from 2- to 14-inches in aperture. Nearly all of them can be seen in the smallest of glasses, and many even in binoculars. Arranged in alphabetical order by constellation (which makes it more convenient to pick out objects for a given night's observations than one ordered by coordinates), it features brief descriptions of each entry. Primary data sources were *Sky Catalogue 2000.0* and the *Washington Double Star Catalog*. Constellation (**CON**) abbreviations are the official three-letter designations adopted by the International Astronomical Union. Right Ascension (**RA**) in hours and minutes, and Declination (**DEC**) in degrees and minutes, are given for the current standard Epoch 2000.0. Other headings are the class or type of object (**TYPE**)*, apparent visual magnitude/s (**MAG/S**) and angular size or separation (**SIZE/SEP**) in arc-minutes or arc-seconds. (Position angles for double stars are not given due to the confusion resulting from the common use of star diagonals with refracting and compound telescopes, producing mirror-reversed images of the sky. Observers desiring the latest values of these as well as component separations should consult the *Washington Double Star Catalog* on-line at <http://ad.usno.navy.mil/wds/>.) Approximate distance in light-years (LY) is also given in many cases. Double and multiple stars dominate this roster due to their great profusion in the sky and also their easy visibility on all but the worst of nights. This list extends down to -45 degrees Declination, covering that 3/4ths of the entire heavens visible from mid-northern latitudes. (Two "must see" showpieces actually lie slightly below this limit.)

*Type key: SS = First-Magnitude/Highly-Tinted &/or Variable Single Star, DS = Double or Multiple Star, AS = Association or Asterism, OC = Open Cluster, GC = Globular Cluster, DN = Diffuse Nebula, PN = Planetary Nebula, SR = Supernova Remnant, GX = Galaxy. (Also: MW = Milky Way under remarks.)

This list was compiled based on my book *Celestial Harvest: 300-plus Showpieces of the Heavens for Telescope Viewing & Contemplation* (Dover). The number shown in () following each object indicates how many of 21 classic and modern deep-sky showpiece lists include it.

OBJECT/CON	RA	DEC	TYPE	MAG/S	SIZE/SEP	REMARKS
Gamma AND (20)	02 04	+42 20	DS	2.3, 5.5	10"	Almach. Brilliant topaz-orange & aquamarine double – superb contrast! B is close blue & green, 61-year binary for 8" & larger scopes. 300LY
59 AND (5)	02 11	+39 02	DS	6.1, 6.8	17"	Neatly matched, easy bluish-white pair.
56 AND (2)	01 56	+37 15	DS	5.7, 5.9	190"	Wide golden pair parked on SW edge of cluster NGC 752. 360LY
NGC 752 AND (12)	01 58	+37 50	OC	5.7	50'	Large, sprawling clan of over 60 stars. 1,200LY
M31/M32/M110 AND (21/12/11)	00 43	+41 16	GX	3.5/8.2/8.0	178'x63'/8'x6'/ 17'x10'	Andromeda Galaxy & companions – magnificent! Nucleus, disk, dust lanes, spiral arms all visible. Also a binocular wonder! 2,400,000LY
NGC 7662 AND (14)	23 26	+42 33	PN	8.5	32"x28"	Blue Snowball. Small but striking soft-blue cosmic egg. 5,600LY
NGC 891 AND (5)	02 23	+42 42	GX	10.0	11'x2'	Often-pictured but dim edge-on galaxy with dust lane. 13,000,000LY
U ANT (1)	10 35	-39 34	SS	5.4-6.8	---	Striking red “carbon” star – seldom observed due to low altitude.
Zeta AQR (21)	22 29	-00 01	DS	4.4, 4.5	2"	Matched, bright, off-white close pair. Famous 850-year binary. 76LY
94 AQR (9)	23 19	-13 28	DS	5.3, 7.3	13"	Lovely pale rose or reddish & light emerald green double.
M2 AQR (19)	21 34	-00 49	GC	6.5	13'	Stellar beehive – a starburst in larger scopes. 37,000LY
NGC 7009 AQR (19)	21 04	-11 22	PN	8.3	25"x17"	Saturn Nebula. Striking bright, bluish-green ellipsoid. 3,000LY
15 AQL (4)	19 05	-04 02	DS	5.5, 7.2	38"	Easy, wide duo. Yellowish-orange & ruddy-purple or lilac.
57 AQL (9)	19 55	-08 14	DS	5.8, 6.5	36"	Another roomy pair. Both stars bluish-white – hint of other hues.
V AQL (1)	19 04	-05 41	SS	6.6-8.4	---	A lovely glowing red ember!
Gamma ARI (21)	01 54	+19 18	DS	4.8, 4.8	8"	Mesarthim. Stunning, perfectly-matched blue-white pair! 200LY
Lambda ARI (10)	01 58	+23 36	DS	4.9, 7.7	37"	Wide color/magnitude-contrast double. 105LY
Alpha AUR (2)	05 17	+46 00	SS	0.08	---	Capella. A radiant golden-yellow sun! 42LY
Theta AUR (9)	06 00	+37 13	DS	2.6, 7.1	4"	Tight mag.-contrast pair for steady nights. Lilac & yellow. 110LY

14 AUR (9)	05 15 +32 41	DS	5.1, 7.4-7.9	15"	Neat double with variable companion.
UU AUR (5)	06 36 +38 27	SS	5.3-6.5	---	Beautiful red color – a celestial stoplight!
M36 AUR (13)	05 36 +34 08	OC	6.0	12'	Lovely cluster of 60-some stars. 4,000LY
M37 AUR (20)	05 52 +32 33	OC	5.6	24'	Very rich & uniform stellar jewelbox – superb! Best in AUR. 4,500LY
M38 AUR (17)	05 29+35 50	OC	6.4	21'	A hundred suns arranged in an oblique-cross formation. 4,000LY
Alpha BOO (2)	14 16 +19 11	SS	-0.04	---	Arcturus. A splendid yellowish-orange stellar gem! 37LY
Epsilon BOO (19)	14 45 +27 04	DS	2.5, 4.9	3"	Izar. Bright, tight double – superb pale-orange & sea-green! Struve's "Pulcherrima" (the most beautiful one). Needs good seeing. 160LY
Xi BOO (18)	14 51 +19 06	DS	4.7, 7.0	6"	Striking – yellow & reddish-orange or purple. 150-yr.binary. 22LY
Mu BOO (13)	15 24 +37 23	DS	4.3, 7.0, 7.6	108", 2"	Neat triple system! B-C is 260-yr. binary. Yellow, two oranges. 95LY
Kappa BOO (8)	14 14 +51 47	DS	4.6, 6.6	13"	Pretty double – tints real but elusive.
Pi BOO (15)	14 41 +16 25	DS	4.9, 5.8	6"	Closer version of Kappa BOO.
Zeta BOO (9)	14 41 +13 44	DS	4.5, 4.6	0.7"	Matched white, ultra-close 125-yr. binary. Stellar egg in small glass.
Struve 1835 BOO (7)	14 23 +08 27	DS	5.1, 7.4	6"	Sweet pair – white & bluish or lilac.
32 CAM (7)	12 49 +83 25	DS	5.3, 5.8	22"	Nice matched off-white pair. Little-known – a pity! 495LY
U CAM (0)	03 42 +62 39	SS	8.1-8.6	---	One of the reddest stars in the sky.
ST CAM (0)	04 51 +68 10	SS	7.0-8.4	---	Another ruddy stellar gem.
NGC 2403 CAM (5)	07 37 +65 36	GX	8.4	18'x11'	One of the brightest galaxies & finest spirals in sky. 12,000,000LY
Zeta CNC (17)	08 12 +17 39	DS	5.6, 6.0, 6.2	0.9", 6"	Close, matched trio with 60- & 1150-yr. periods. All yellow. 70LY
Iota CNC (17)	08 47 +28 46	DS	4.2, 6.6	30"	Spring Albireo. Superb orange & blue pair! 165LY
X CNC (0)	08 55 +17 14	SS	5.7.5	---	A stellar ruby! Tint obvious even in small glass.
M44 CNC (20)	08 40 +19 59	OC	3.1	90'	Beehive Cluster. A sprawling commune of over 50 suns. Best seen in

					binoculars & wide-field telescopes. 590LY
M67 CNC (17)	08 50 +11 49	OC	6.9	30'	Lovely but overlooked cluster in shadow of Beehive. 2,500LY
Alpha CVN (20)	12 56 +38 19	DS	2.9, 5.5	20"	Cor Caroli. Magnificent blue-white double – one of the finest! 130LY
Y CVN (8)	12 45 +45 26	SS	5.5-6.0	---	La Superba. A fiery reddish-orange interstellar beacon. 400LY
M3 CVN (21)	13 42 +28 23	GC	6.4	16'	Spring's Globular. First bright GC of season – radiant ball! 35,000LY
M51/NGC 5195 CVN (20)	13 30 +47 12	GX	8.4/9.6	11'x8'/5'x4'	Rosse's Whirlpool Galaxy. Big, beautiful face-on spiral. 31,000,000LY
M63 CVN (10)	13 16 +42 02	GX	8.6	12'x8'	Sunflower Galaxy. Like some vast celestial flower. 35,000,000LY
M94 CVN (13)	12 51 +41 07	GX	8.2	11'x9'	Small, bright tightly-wound spiral. 22,000,000LY
M106 CVN (9)	12 19 +47 18	GX	8.3	18'x8'	Big, bright & bold spiral for small glasses. 33,000,000LY
NGC 4631 CVN (10)	12 42 +32 32	GX	9.3	15'x3'	Humpback Whale Galaxy. Large edge-on spiral. 39,000,000LY
Alpha CMA (14)	06 45 -16 43	DS	-1.46, 8.5	7"	Sirius. Blazing blue-white sapphire with famed white-dwarf companion! A 50-year binary, now widening. Just 9LY away!
Epsilon CMA (6)	06 59 -28 58	DS	1.5, 7.5	7"	Adhara. A miniature Sirius – & much easier! 490LY
Herschel 3945 CMA (5)	07 17 -23 19	DS	4.8, 6.8	27"	Winter Albireo. Splendid reddish-orange & greenish-blue pair!
W CMA (0)	07 08 -11 55	SS	6.4-7.9	---	Red ember in nice contrast with surrounding blue-white field stars.
M41 CMA (19)	06 46 -20 45	OC	4.5	38'	Lovely big, bright sparkling clan of 80 suns below Sirius! 2,400LY
Tau CMA/NGC 2362 (6)	07 19 -24 57	OC	4.1	8'	Tau Canis Majoris Cluster. Small glittering jewelbox of 60 diamonds surrounding a bright central star. 5,400LY
Alpha-2/1 CAP (14)	20 18 -12 33	DS	3.6, 4.2	380"	Algiedi. Naked-eye/binocular orange pair with faint comps. at 7" & 46" forming weak double-double. Stars unrelated: 110LY & 700LY!
Beta CAP (10)	20 21 -14 47	DS	3.4, 6.2	205"	Wide binocular combo – yellowish-orange & sky-blue. 560LY
Omicron CAP (9)	20 30 -18 35	DS	6.1, 6.6	22"	Neat, closely matched blue-white pair for small scopes.

RT CAP (1)	20 17 -21 19	SS	6.5-8.1	---	Lovely warm-hued gem.
M30 CAP (11)	21 40 -23 11	GC	7.5	11'	Pale-white starry globe nicely contrasted with 8 th -mag. star. 40,000LY
Eta CAS (19)	00 49 +57 49	DS	3.4, 7.5	13"	Easter Egg Double. Beautiful yellow & ruddy-purple or garnet color & magnitude-contrast combo. A 480-year binary. Nearby – just 19LY
Iota CAS (17)	02 29 +67 24	DS	4.6, 6.9, 8.4	2.5", 7"	Elegant but tight triple system. Hues yellow, lilac & blue. 160LY.
Sigma CAS (12)	23 59 +55 45	DS	5.0, 7.1	3"	Tight pair with intense bluish & greenish tints. Quite distant – 1,400LY
Struve 163 CAS (6)	01 51 +64 51	DS	6.8, 8.8	35"	Colorful, unequal faintish pair – ruddy-orange & blue.
Struve 3053 CAS (7)	00 03 +66 06	DS	5.9, 7.3	15"	Beautiful miniature of Albireo in CYG. Yellowish-orange & blue.
M52 CAS (14)	23 24 +61 35	OC	6.9	13'	Rich, triangular-shaped sparkling group of at least 100 stars. 4,000LY
M103 CAS (8)	01 33 +60 42	OC	7.4	6'	A small fan-shaped clan of several dozen suns. 8,000LY
Phi CAS/NGC 457 (10)	01 19 +58 20	OC	6.4	13'	Owl/ET Cluster. Distinctive splash of 80 suns & two “eyes”! 9,300LY
NGC 7789 CAS (16)	23 57 +56 44	OC	6.7	16'	Caroline Herschel’s Cluster. Rich uniform assemblage of more than 300 faint stars against stardust. Wondrous sight on dark night! 6,000LY
Omega CEN (15)	13 27 -47 29	GC	3.6	36'	Omega Centauri Cluster. Colossal stellar beehive containing more than a million suns – an amazing spectacle in any size scope! 17,000LY
NGC 5128 CEN (10)	13 26 -43 01	GX	7.0	18'x14'	Black Belt Galaxy. Large globe split by dark dust lane. 22,500,000LY
Beta CEP (15)	21 29 +70 34	DS	3.2, 7.9	13"	Neat unequal pair – greenish-white & blue or purple. Exquisite! 980LY
Delta CEP (17)	22 29 +58 25	DS	3.5-4.4, 6.3	41"	Striking pale orange & blue gems. Primary prototype of famed Cepheid variables – period 5.4 days. 1,000LY
Xi CEP (11)	22 04 +64 38	DS	4.4, 6.5	8"	Neat bright pair with subtle colors – bluish & yellowish. 80LY
Mu CEP(9)	21 44 +58 47	SS	3.4-5.1	---	Herschel’s Garnet Star. Reddest naked-eye star in N. sky. 2,800LY
Struve 2816 CEP (6/1)	21 39 +57 29	DS	5.6, 7.7, 7.8	12", 20"	Striking triple system with double Struve 2819 (7.5, 8.5, 12") in field!

Struve 2840 CEP (6)	21 52 +55 48	DS	5.5, 7.3	18"	Lovely pair – greenish-white & bluish-white.
NGC 40 CEP (4)	00 13 +72 32	PN	10.2	60"x40"	Dull reddish-grey disk with central star. 3,000LY
NGC 7023 CEP (2)	21 02 +68 12	DN	6.8	18"	Iris Nebula. Bright reflection nebula surrounding 7 th -mag. blue star.
NGC 6939/6946 CEP (3/2)	20 31 +60 38	OC/GX	7.8/8.9	8'/11'x10'	Unique cluster-galaxy combo set 38' apart! 4,000LY & 10,000,000LY
Gamma CET (15)	02 43 -03 14	DS	3.5, 6.2	3"	Close, bright pair with delicate tints – yellow & ashen. 63LY
M77 CET (11)	02 43 -00 01	GX	8.8	7'x6'	Intense star-like core surrounded by circular haze. 82,000,000LY
24 COM (17)	12 35 +18 23	DS	5.2, 6.7	20"	Vivid orange & blue-green duo – a lovely jewel! 300LY
M53 COM (10)	13 13 +18 10	GC	7.7	13'	A dim ball of minute stars. Needs aperture to really enjoy. 65,000LY
M64 COM (17)	12 57 +21 41	GX	8.5	9'x5'	Blackeye Galaxy. Superb bright spiral with dark "eye". "Like a colossal pendent abalone pearl in rayless void"! 25,000,000LY
M88 COM (11)	12 32 +14 25	GX	9.5	7'x4'	Like a miniature Andromeda Galaxy. Stellar nucleus. 40,000,000LY
M99 COM (8)	12 19 +14 25	GX	9.8	5'x5'	Pinwheel Nebula. Wonderful face-on spiral. 50,000,000LY
NGC 4565 COM (11)	12 36 +25 59	GX	9.6	16'x3'	Ghostly edge-on spiral with dark equatorial dust lane. 20,000,000LY
MEL 111 COM (5)	12 25 +26 00	OC	1.8	275'	Coma Star Cluster. Large hazy, naked-eye & binocular wonder. 270LY
Gamma CRA (8)	19 06 -37 04	DS	4.8, 5.1	1.3"	Twin yellowish binary – stars appear in contact. 69LY
Zeta CRB (15)	15 39 +36 38	DS	5.1, 6.0	6"	Pretty pair of bluish-white & greenish-white suns.
Sigma CRB (10)	16 15 +33 52	DS	5.6, 6.6	7"	Like Zeta but stars are yellowish. Binary with 1000-yr. period.
Delta CRV (14)	12 30 -16 31	DS	3.0, 8.4	24"	Algorab. Nice color & mag. contrast – yellow & violet or lilac. 125LY
Struve 1669 CRV (6)	12 41 -13 01	DS	6.0, 6.1	5"	Neatly-matched close pair of yellowish-white suns.
NGC 4361 CRV (10)	12 24 -18 48	PN	10.3	80"	Large, round dimly glowing nebulous disk. 2,600LY
NGC 4038/4039 CRV (2)	12 02 -18 52	GX	10.7	3'x2'	Antennae/Ring-Tail Galaxy. Colliding pair of galaxies! 90,000,000LY
Alpha CYG (2)	20 41 +45 17	SS	1.25	---	Deneb. Colossal blue supergiant 60,000 x Sun's brightness! 1,600LY

Beta CYG (21)	19 31 +27 58	DS	3.1, 5.1	34"	Albireo. One of grandest sights in the heavens! Magnificent topaz & sapphire-blue pair in radiant MW setting. Finest double star. 380LY
Omicron-1 CYG (8)	20 14 +46 44	DS	3.8, 7.7, 4.8	107", 338"	Lovely wide trio – orange, blue & white in rich MW setting. 200LY
Delta CYG (12)	19 45 +45 08	DS	2.9, 6.3	2.5"	Bright, close unequal pair – tough but pretty. Greenish-white & ashen. Best seen in larger apertures. An 800-yr.-period binary. 270LY
16 CYG (9)	19 42 +50 32	DS	6.0, 6.1	39"	Lovely matched golden duo in wide field with Blinking Planetary.
61 CYG (17)	21 07 +38 45	DS	5.2, 6.0	30"	Beautiful easy orange pair. Famous as first star to have its distance (parallax) directly measured (Bessel) – 11LYs. Slow 650-year binary.
V460 CYG (0)	21 42 +35 31	SS	5.6-7.0	---	Striking red gem – an unresolved binary harboring a black hole!
M39 CYG (14)	21 32 +48 26	OC	4.6	32'	Large triangular-shaped splash of 30 stars – best in binoculars. 890LY
NGC 6826 CYG (11)	19 45 +50 31	PN	8.9	27"	Blinking Planetary. Pale blue disk with obvious 10 th -mag. central star. Alternating between direct & averted vision makes it blink! 3,300LY
NGC 6819 CYG (5)	19 41 +40 11	OC	7.3	5'	Foxhead Cluster. Small, dim but rich clan of 150 stars. 7,300LY
NGC 6960/6992-5 CYG (10/9)	20 51 +31 13	SR	---	70'x6'/60'x8'	Veil/Filamentary/Cirrus Nebula. Large ghostly arcs 3 degrees apart from supernova explosion some 5,000 years ago. Best seen in large binoculars & wide-field telescopes. 1,500LY
NGC 7027 CYG (7)	21 07 +42 14	PN	9.0	18"x11"	Stephan's/Webb's Proto-Planetary. Small, blue & intense! 3,000LY
Gamma DEL (20/0)	20 47 +16 07	DS	4.5, 5.5	10"	Stunning golden-yellow & greenish-blue combo – splendid object! "Ghost Double" Struve 2725 (7.6, 8.4, 6") in field. 100LY
Mu DRA (11)	17 05 +54 28	DS	5.7, 5.7	2"	Cozy, yellowish-white identical-twin 480-year binary. 82LY
Nu DRA (13)	17 32 +55 11	DS	4.9, 4.9	62"	Another pair of perfectly-matched suns, but brighter & much wider than Mu. Both white – superb! Nice binocular pair. 120LY

Psi DRA (9)	17 42 +72 09	DS	4.9, 6.1	30"	Pretty yellow & lilac combo – easy for small glass.
17/16 DRA (11)	16 36 +52 55	DS	5.4, 6.4, 5.5	3", 90"	Nice triple system like Mu BOO but primary has comp. All white.
41/40 DRA (9)	18 00 +80 00	DS	5.7, 6.1	19"	Pale-yellow pair with 7.5-magnitude star nearby.
RY DRA (0)	12 56 +66 00	SS	6.8-7.3	---	A glowing stellar ruby!
UX DRA (1)	19 22 +76 34	SS	5.9-7.1	---	Another stunning red sun.
NGC 6543 DRA (17)	17 59 +66 38	PN	8.8	22"x16"	Cat's Eye/Snail Nebula. Bright blue-green egg with 10 th -mag. nuclear sun. One of the finest of its class & always above horizon! 3,500LY
NGC 5907 DRA (4)	15 16 +56 19	GX	10.4	12'x2'	Splinter Galaxy. Long, narrow & dim edge-on spiral. 35,000,000LY
Epsilon=1 EQU (10)	20 59 +04 18	DS	5.4, 7.1	10"	Neat pair – both yellowish. Primary close (0.7") visual binary. 200LY
Lambda=2 EQU (8)	21 02 +07 11	DS	7.4, 7.4	3"	Tight but striking identical-twin suns.
Theta ERI (12)	02 58 –40 18	DS	3.2, 4.3	8"	Radiant white, far-south gems! 120LY
32 ERI (17)	03 54 –02 57	DS	4.8, 6.1	7"	Lovely topaz-yellow & sea-green in superb contrast – a beauty! 300LY
Omicron-2 ERI (8)	04 15 –07 39	DS	4.4, 9.5, 11.2	83", 8"	Faint pair an amazing white-dwarf & red-dwarf 248-year binary. 16LY
NGC 1535 ERI (16)	04 14 -12 44	PN	9.4	20"x17"	Lassell's Most Extraordinary Object. Blue-green "celestial jellyfish."
NGC 1316 FOR (2)	03 23 -37 12	GX	8.8	7'x6'	Fornax A. Luminous leader of Fornax Galaxy Cluster. 55,000,000LY
NGC 1360 FOR (2)	03 33 -25 51	PN	9.4	6'x4'	Bright egg-shaped overlooked jewel. 980LY
NGC 1365 FOR (2)	03 34 -36 08	GX	9.5	10'x6'	One of the finest barred-spirals in the sky.
Alpha GEM (21)	07 35 +31 53	DS	1.9, 2.9, 8.9	4", 72"	Castor. Dazzling blue-white 470-yr. binary – a magnificent sight! Orange comp. is eclipser YY GEM, ranging from 8.9 to 9.6 over 20 hours. A & B are spectroscopic binaries – a vast six-sun system! 52LY
Delta GEM (12)	07 20 +21 59	DS	3.5, 8.2	6"	Close yellow & reddish-purple duo. Binary – 1200-year period. 53LY

20 GEM (6)	06 32 +17 47	DS	6.3, 6.9	20"	Neat yellowish-white & bluish-white pair. 450LY
M35/NGC 2158 GEM (21/3)	06 09 +24 20	OC/OC	5.1/11	28"/5'	Lassell's Delight. Big splashy & spectacular stellar jewelbox with tiny remote clan shining dimly on outskirts. Clusters lie at vastly different distances from each other – 2,700LY & 16,000LY!
NGC 2392 GEM (18)	07 29 +20 55	PN	8.3	20"	Eskimo/Clown Face Nebula. Vivid blue disk with 10 th -mag. central sun looking like a hazy star at low power. 3,000LY
Alpha HER (21)	17 15 +14 23	DS	3.1-3.9, 5.4	5"	Rasalgethi. Bright, intensely tinted orange & blue-green pair – superb! Primary huge pulsating semi-regular variable – a supersun! 380LY
Delta HER (14)	17 15 +24 50	DS	3.1, 8.7	14"	Famed, very delicate optical (unrelated) pair. White & violet. 94LY
Kappa HER (8)	16 08 +17 03	DS	5.3, 6.5	28"	Striking yellow & garnet jewels!
Zeta HER (7)	16 41 +31 36	DS	2.9, 5.5	0.7"	Herschel's Rapid Binary. 34-yr. period – over 6 orbits since disc! 30LY
Rho HER (15)	17 24 +37 09	DS	4.6, 5.6	4"	Bright, cozy bluish & greenish pair – stunning.
95 HER (16)	18 02 +21 36	DS	5.0, 5.1	6"	Lovely twin suns – amazing “apple-green & cherry-red” tints! 380LY
100 HER (8)	18 08 +26 06	DS	5.9, 6.0	14"	Another matched pair but wider & pale off-white hues. Little-known.
M13 HER (21)	16 42 +36 28	GC	5.9	17'	Hercules Cluster. A magnificent stellar beehive! Fuzz-ball as seen in binoculars, resolved to its glittering core in 6-inch glass. 24,000LY
M92 HER (16)	17 17 +43 09	GC	6.5	11'	Overshadowed Globular. Eclipsed by M13. Intense core. 26,000LY
NGC 6210 HER (13)	16 44 +23 49	PN	9.3	20"x16"	Small featureless blue disk – needs magnification to enjoy. 3,600LY
NGC 6229 HER (3)	16 47 +47 32	GC	9.4	4'	“Sea-green in starry triangle.” Long mistaken for a PN. 90,000LY
Epsilon HYA (10)	08 47 –06 25	DS	3.3, 6.8	3"	Tight 890-yr. binary. Primary is also a 15-yr. visual binary! 150LY
N HYA=17CRT (6)	11 32 –29 16	DS	5.8, 5.9	9"	Perfectly matched, yellowish-white twin suns.
54 HYA (10)	14 46 -25 27	DS	5.1, 7.1	9"	Pretty pair for small glass – yellowish & violet tints.

U HYA (3)	10 38 -13 23	SS	4.8-6.5	---	A fiery, reddish-orange stellar gem.
M48 HYA (9)	08 14 -05 48	OC	5.8	30'	Big, bright splendid splash of some 50 stars the size of Moon. 1,900LY
M68 HYA (9)	12 40 -26 45	GC	8.2	12'	Neglected due to low DEC – needs dark, steady night. 45,000LY
M83 HYA (10)	13 37 -29 52	GX	8.0	11'x10'	Big, bold face-on spiral – one of brightest in the sky. 10,000,000LY
NGC 3242 HYA (19)	10 25 -18 38	PN	8.6	40"x35"	Jupiter's Ghost. Superb bright planetary with pale-blue disk as big in apparent size as Jupiter. Also known as the Eye & CBS Neb. 3,300LY
8 LAC (9)	22 36 +39 38	DS	5.7, 6.5, 10.5, 9.3	22", 49", 82"	Blue-white duo – fainter companions form delicate quadruple. 1,900LY
NGC 7243 LAC (10)	22 15 +49 53	OC	6.4	21'	Nice loose clan of 40 stellar gems. 2,800LY
Alpha LEO (5)	10 08 +11 58	DS	1.4, 7.7	177"	Regulus/Indigo Star. Wide mag.-contrast pair with blue-white primary & comp. that's "seemingly steeped in indigo." And so it appears! 78LY
Gamma LEO (21)	10 20 +19 51	DS	2.2, 3.5	4"	Algieba. Magnificent, radiant golden suns – one of the finest double stars in the heavens! A 620-year binary. 170LY
54 LEO (10)	10 56 +24 45	DS	4.5, 6.3	6"	Lovely, little-known bluish-white & greenish-white pair. 150LY
R LEO (5)	09 48 +11 26	SS	4.4-10.5	---	Peltier's Variable. Has rosy-scarlet hue throughout its cycle. 600LY
M65/M66/ NGC 3628 LEO (10/10/5)	11 19 +13 05	GX	9.3/9.0/ 9.5	10'x3'/8'x4'/ 15'x4'	Leo Triplet. A trio of bright spirals lying within the same wide field of view – wondrous sight! 30,000,000LY
M95/M96/M105 LEO (10/10/8)	10 44 +11 42	GX	9.7/9.2/9.3	7'x5'/7'x5'/ 4'x4'	Another trio of spirals sharing same field of view! 30,000,000LY
NGC 2903 LEO (9)	09 32 +21 30	GX	8.9	13'x7'	One of best galaxies missed by Messier – easily spied. 30,000,000LY
Gamma LEP (9)	05 44 -22 27	DS	3.7, 6.3	96"	Wide pale-yellow & garnet combo "awash in vivid color"! 29LY
R LEP (7)	05 00 -14 48	SS	5.5-11.7	---	Hind's Crimson Star. A gleaming, intense stellar ruby. 1,500LY
M79 LEP (10)	05 24 -24 33	GC	8.0	9'	Winter's Lone Globular. Small & faintish but unique. 50,000LY

Alpha LIB (5)	14 51 -16 02	DS	2.8, 5.2	230"	Zubenelgenubi. Nice wide, binocular & RFT combo. 65LY
Struve 1962 LIB (6)	15 39 -08 47	DS	6.5, 6.6	12"	Pretty, perfectly-matched white twins – neatly spaced.
Xi LUP (4)	15 57 -33 58	DS	5.3, 5.8	10"	Seldom observed bright, sweet pair of bluish-white suns. 120LY
12 LYN (13)	06 46 +59 27	DS	5.4, 6.0, 7.3	1.7", 9"	Fascinating tight trio, all white. A-B is 700-year binary. 140LY
19 LYN (6)	07 23 +55 17	DS	5.6, 6.5	15"	Attractive pair with subtle contrasting tints. A 9 th -mag. lies nearby.
38 LYN (9)	09 19 +36 48	DS	3.9, 6.6	3"	Bright close, unequal pair with elusive color contrast for steady night.
NGC 2419 LYN (2)	07 38 +38 53	GC	10.4	4'	Intergalactic Wanderer. Dim, small & amazingly remote – 300,000LY!
NGC 2683 LYN (2)	08 53 +33 25	GX	9.7	9'x2'	Bright, nearly edge-on spiral – cigar shaped. Distance uncertain.
Alpha LYR (10)	18 37 +38 47	DS	0.0, 9.5, 9.5	63", 118"	Vega. Dazzling pale-sapphire gem with faint comps. – beautiful! 26LY
Beta LYR (11)	18 50 +33 22	DS	3.3-4.3, 8.6, 9.9, 9.9	46", 67", 86"	Struve's Eclipsing Binary. Set within starry triangle, forming delicate quadruple. Varies continuously in 13-day period. 860LY
Epsilon-1/2 LYR (19)	18 44 +39 40	DS	5.0, 6.1 5.2, 5.5	2.6" 2.3"	Famed "Double-Double" multiple system! 600-yr. & 1200-yr.binary. Pairs 208" apart & slowly orbiting each other. All white. 200LY
Zeta LYR (11)	18 45 +37 36	DS	4.3, 5.9	44"	Easy topaz & pale-green double. 155LY
Delta LYR (3)	18 54 +36 58	DS	4.5, 5.6	630"	Ultra-wide but lovely reddish-orange & blue-green pair involved in sparse but colorful open cluster Stephenson-1. Both 800LY
Struve 2420 LYR(2)	18 55 +33 58	DS	6.0, 7.7	45"	Fainter & wider miniature of Albireo, lying near the Ring Nebula.
T LYR (0)	18 32 +37 00	SS	7.7-9.6	---	Rather faint but quite stunning! One of the reddest stars known.
M56 LYR (10)	19 17 +30 11	GC	8.2	7'	A dim but sparkling stellar beehive in rich MW field. 45,000LY
M57 LYR (21)	18 54 +33 02	PN	8.8	80"x60"	Ring Nebula. Finest & best-known planetary in the sky. A celestial smoke ring – superb sight! Central hole visible in small glass. 1,400LY
Beta MON (17)	06 29 -07 02	DS	4.7, 5.4, 5.6	7", 10"	Herschel's Wonder Star. Striking trio, all bluish-white, forming

Epsilon=8 MON (8)	06 24 +04 36	DS	4.5, 6.5	13"	slender triangle. An amazing spectacle! B-C 3" apart. 700LY
M50 MON (14)	07 03 -08 20	OC	5.9	16'	Pretty gold & blue pair in rich Milky Way field.
12 MON/NGC2244/ NGC 2237-9/NGC 2246 (11/8)	06 32 +04 52	OC/ DN	4.8/--- ---	24' 80'x60'	Beautiful stellar jewelbox of at least 100 suns. 2,900LY
15=S MON/NGC 2264 (4/6)	06 41 +09 53	OC	3.9	20'	Rosette Cluster/Nebula. Huge faint ring-shaped nebulosity surrounding irregular cluster of newborn suns centered on yellow giant. 2,600LY
R MON/NGC 2261 (6)	06 39 +08 44	DN	---	2'x1'	Christmas Tree Cluster. Big bright cluster of over 40 stars strikingly arranged in the shape of an upside-down evergreen tree! 2,600LY
Lambda OPH (6)	16 31 +01 59	DS	4.2, 5.2	1.5"	Hubble's Variable Nebula. Small, comet-shaped nebula – changes size, shape & brightness with pulsations of embedded variable. 2,600LY
36 OPH (14)	17 15 -26 36	DS	5.1, 5.1, 6.7	5", 730"	Bright, tight 130-yr. binary. An elongated whitish egg in small glass.
Omicron=39 OPH (12)	17 18 -24 17	DS	5.4, 6.9	10"	Pretty matched close pair with wide comp. All golden-orange. 18LY
61 OPH (5)	17 45 +02 35	DS	6.2, 6.6	21"	Lovely orange & clear-blue jewels – striking!
70 OPH (18)	18 06 +02 30	DS	4.2, 6.0	5"	A neat, closely-matched duo of silvery-white suns.
M10 OPH (17)	16 57 -04 06	GC	6.6	15'	Famous yellow & red binary with 88-yr. period. Superb pair! 17LY
M12 OPH (16)	16 47 -01 57	GC	6.8	15'	Big starry ball & near-twin of M12, just 3 degrees apart. 18,000LY
M14 OPH (10)	17 38 -03 15	GC	7.6	12'	Along with M10, the best of the many GCs in OPH. 18,000LY
M19 OPH (14)	17 03 -26 16	GC	7.2	14'	Noticeably fainter but richer cluster than M10 & M12. 33,000LY
M62 OPH (10)	17 01 -30 07	GC	6.6	14'	Oblate Globular. Most oval GC known (from its rapid spin). 30,000LY
NGC 6572 OPH (12)	18 12 +06 51	PN	9.0	15"x12"	With M10, brightest GC in OPH. A near-twin of M19. 20,000LY
NGC 6633 OPH (8)	18 28 +06 34	OC	4.6	27'	Small but intense blue disk like NGC 6210 in HER. 1,900LY
IC 4665 OPH (5)	17 46 +05 43	OC	4.2	41'	Big, bright scattered clan of nearly 60 stars in unusual shape. 1,000LY
					Called the Summer Beehive Cluster – sweet in binoculars! 1,300LY

Alpha ORI (6)	05 55 +07 24	SS	0.4-1.3	---	Betelgeuse. Fiery topaz-red supergiant sun – a dazzling gem! 520LY
Beta ORI (16)	05 14 –08 12	DS	0.1, 6.8	10"	Rigel. Beautiful radiant blue-white supergiant sun with fainter comp. ("little boy blue") forming a splendid magnitude-contrast pair! 770LY
Eta ORI (8)	05 25 –02 24	DS	3.1-3.4, 4.8	1.5"	Bright tight, bluish duo – primary an 8-day eclipsing binary. 1,400LY
Lambda ORI (15)	05 35 +09 56	DS	3.6, 5.5	4"	Neat cozy pair, both bluish-white with hint of violet or purple. 900LY
Delta ORI (10)	05 32 –00 18	DS	1.9-2.1, 6.3	53"	Wide mag.-contrast pair with 5.7-day eclipsing primary. Tints greenish-white & pale-blue or violet. Neat double for binoculars. 1,400LY
Zeta ORI (16/7)	05 41 –01 57	DS	1.9, 4.0	2.5"	Bright close blue-white duo. Flame Neb. (NGC 2024) in field. 1,400LY
23 ORI (4)	05 23 +03 33	DS	5.0, 7.1	32"	Overlooked wide easy combo. Both stars bluish-white in hue.
Sigma ORI (16/2)	05 39 –02 36	DS	4.0, 10.3, 7.6, 6.5	11", 13", 43"	Amazing colorful multiple star with faint triple Struve 761 (8.0, 8.5, 9.0, 68", 8") in field; all one vast system! Many hues evident. 1,200LY
Iota ORI (11/5)	05 35 –05 55	DS	2.8, 6.9	11"	Diamond-like pair with Struve 747 (4.8, 5.7, 36") in same radiant gem-field – forming a wide double-double system! 2,000LY
Theta-1 ORI (15)	05 35 –05 23	DS	6.4, 7.9, 5.1, 6.7	9", 13", 22"	Famed "Trapezium" multiple star embedded in heart of Orion Nebula. Wondrous spectacle – like diamonds on green velvet! Also several fainter companions – an actual star cluster in formation! 1,600LY
M42/M43 ORI (21)	05 35 –05 23	DN	4.0/9.0	66'x60'/20'x10'	Orion Nebula. Finest DN in the sky & perhaps the grandest deep-sky wonder of them all (with the exception of the MW itself). Magnificent fan-shaped cloud with wings and wisps overflowing the field of view. Obvious emerald-green/turquoise hue with subtle pinkish tints & the Trapezium diamonds at its heart. Thrilling beyond words! 1,600LY
Theta-2 ORI (2)	05 35 -05 25	DS	5.2, 6.6	52"	Wide bluish-white pair in Orion Nebula.

W ORI (0)	05 05 +01 11	SS	6.2-7.0	---	Its ruddy glow warms the observer on cold Winter nights!
BL ORI (0)	06 26 +14 43	SS	6.3-7.0	---	Another ruby – a twin of W ORI in both hue & brightness.
M78 ORI (10)	05 47 +00 03	DN	8.0	8'x6'	Weird-looking, comet-shaped nebulosity with two dim stars. 1,400LY
COL 70 ORI (1)	05 36 -01 00	OC	0.4	150'	Epsilon Orionis Cluster. Stunning circular starburst surrounding middle star in Orion's belt as seen in binoculars & RFTs.
Epsilon PEG (4)	21 44 +09 52	DS	2.4, 8.5	143"	Enif/Pendulum Star. Tap scope & see! Yellow & violet. 780LY
M15 PEG (20)	21 30 +12 10	GC	6.4	12'	Rich, compact starball with intense core. 34,000LY
NGC 7331 PEG (5)	22 37 +34 25	GX	9.5	11'x4'	Big bright, nearly edge-on spiral. 50,000,000LY
Eta PER (13)	02 51 +55 54	DS	3.8, 8.5	28"	Color & mag.-contrast pair – vivid orange & blue hues. 890LY
Alpha PER/MEL 20 (4)	03 22 +49 00	AS	1.8/1.2	185'	Mirfak/Alpha Persei Association. Binocular wonder! 600LY
Beta PER (8)	03 08 +40 57	SS	2.1-3.4	---	Algol/Demon Star. Naked-eye eclipser – period 2.9 days. 100LY
M34 PER (17)	02 42 +42 47	OC	5.2	35'	“A celestial aegis hung aloft in splendor!” Lovely sight. 1,500LY
M76 PER (14)	01 42 +51 34	PN	11.5	140"x70"	Little Dumbbell/Barbell/Cork/Butterfly Nebula. Faintish, pearly-white miniature of the Dumbbell Nebula in VUL. 4,000LY
NGC 869/NGC 884 PER (21)	02 19 +57 09	OC	3.5/3.6	30'/30'	The Double Cluster. Two magnificent, overlapping radiant starbursts! Amazing colorful, stellar jewelboxes. Awesome in binoculars, RFTs & telescopes of all sizes. Clans related – 7,200LY & 7,500LY
Alpha PSC (19)	02 02 +02 46	DS	4.2, 5.1	2"	Alrescha. Tight pair with strange subtle tints. 720-yr. binary. 130LY
Psi-1 PSC (8)	01 06 +21 28	DS	5.6, 5.8	30"	Easy matched pair – both stars blue-white.
Zeta PSC (10)	01 14 +07 35	DS	5.6, 6.5	23"	Pale-yellow & pale-lilac combo. 140LY
65 PSC (9)	00 50 +27 43	DS	6.3, 6.3	4"	Neatly matched, pale-yellow cozy pair.
TX=19 PSC (5)	23 46 +03 29	SS	4.5-5.3	---	Lovely reddish-orange sun in Circlet Asterism of PSC. 400LY

Alpha PSA (2)	22 58 -29 37	SS	1.2	---	Fomalhaut. The "Solitary One." A sparkling blue-white gem. 25LY
k PUP (10)	07 39 -26 48	DS	4.5, 4.7	10"	Superb bright pair resembling Gamma ARI. Both blue-white. 450LY
M46/NGC 2438 PUP (13/6)	07 42 -14 49	OC/PN	6.1/11.5	27"/66"	Rich uniform clan of over 100 suns with a tiny, ghostly ring-shaped nebula projected against it. Unrelated – 5,400LY & 3,000LY
M47 PUP (13)	07 37 -14 30	OC	4.4	30'	Grand broad splash of several dozen suns. 1,500LY
M93 PUP (10)	07 45 -23 52	OC	6.2	22'	Glorious swarm of some 80 colorful stars. Wedged-shaped. 3,400LY
NGC 2440 PUP (12)	07 42 -18 13	PN	10.5	16"	Tiny, bluish-white disk – a celestial opal. 3,500LY
NGC 2477 PUP (5)	07 52 -38 33	OC	5.8	27'	Superb, rich cluster of 300 stars – like a loose globular. 4,000LY
M71 SGE (11)	19 54 +18 47	GC	8.3	7'	Remote-looking but pretty, misty glow in rich MW field. 13,000LY
AQ SGR (1)	19 34 -16 22	SS	6.7-7.1	---	Glowing reddish stellar ember.
M8/NGC 6530 SGR (21/2)	18 04 -24 23	DN/OC	5.8/4.6	90'x40'/15'	Lagoon Nebula. Large floating nebulous patch crossed by great curving dark lane, with scattered cluster to one side. Wondrous sight! Finest of its class for N. observers after the Orion Nebula. 5,000LY
M17 SGR (20)	18 21 -16 11	DN	6.0	46'x37'	Horseshoe/Omega/Swan Nebula. Multi-named glowing wonder. A long ray with hook at one end, crossed by dark lanes & many stars. 5,000LY
M20 SGR (15)	18 03 -23 02	DN	6.3	29'x27'	Trifid Nebula. Although inferior to the Lagoon (which lies closeby), "a dark-night revelation!" Bulbous cloud trisected by dark rifts. 5,500LY
M21 SGR (9)	18 05 -22 30	OC	5.9	13'	Bright stellar clan of some 60 suns lying near the Trifid. 4,000LY
M22 SGR (20)	18 36 -23 54	GC	5.1	24'	M13 Rival. Big, bright magnificent stellar beehive, resolved to center even in small glasses! Stars look ruddy in larger scopes. 10,000LY
M23 SGR (15)	17 57 -19 01	OC	5.5	27'	Large, rich & uniform stellar commune. Lovely sight. 2,100LY
M24 SGR (13)	18 18 -18 25	GX	4.5	120'x60'	Small Sagittarius Star Cloud. Magnificent MW starcloud for sweeping

					with binoculars & wide-field telescopes. Overpowering! 16,000LY
M25 SGR (11)	18 32 -19 15	OC	4.6	32'	Large splashy cluster of some 50 suns. Coarse but brilliant. Contains Cepheid U SGR, which varies from 6.3 to 7.1 over 7 days. 2,000LY
M55 SGR (14)	19 40 -30 58	GC	7.0	19'	Large, loosely compressed orb. Needs dark, steady night. 16,000LY
NGC 6818 SGR (12)	19 44 -14 09	PN	9.9	22"x15"	Little Gem Nebula. Small, bluish-green cosmic egg. 5,000LY
Alpha SCO (15)	16 29 -26 26	DS	0.9-1.8, 5.4	2.5"	Antares. Beautiful fiery-red supergiant with superb emerald-green companion! Very tight – good seeing a must. 900-yr. binary. 600LY
Beta SCO (19)	16 05 -19 48	DS	2.6, 4.9	14"	Graffias. Lovely blue-white pair resembling Mizar in UMA. 600LY
Nu SCO (14)	16 12 -19 28	DS	4.5, 5.3	1"	Colorful but tight quadruple with pairs 41" apart. Tints subtle but
			6.6, 7.2	2"	real – striking sight in larger scopes. 440LY
Xi SCO (16/1)	16 04 -11 22	DS	4.8, 7.3	8"	Yellow pair with Struve 1999 (7.4, 8.1, 12") 280" away forming wide double-double. Primary 46-year period close binary. 80LY
M4 SCO (17)	16 24 -26 32	GC	5.9	26'	Big softly-shining globular swarm, resolvable in the smallest of scopes. Noticeably elongated vertically. Lovely sight! Near Antares. 7,000LY
M6 SCO (16)	17 40 -32 13	OC	4.2	25'	Butterfly Cluster. Like a butterfly with open wings! 1,400LY
M7 SCO (17)	17 54 -34 39	OC	3.3	80'	Sprawling, radiant swarm of 80 tinted jewels. Binocular target. 800LY
M80 SCO (14)	16 17 -22 59	GC	7.2	9'	Herschel's Delight. Tiny, densely-packed glittering starball. 27,000LY
NGC 6231/Zeta-1 SCO (6)	16 54 -41 48	OC	2.6	15'	Glorious, dazzling cluster – 120 suns plus blue supergiant! 6,000LY
NGC 6302 SCO (5)	17 14 -37 06	PN	9.7	2'x1'	Bug Nebula. Strange, unusual-looking bi-polar nebula. 1,900LY
R SCL (1)	01 27 -32 33	SS	5.9-8.8	---	Pulsating crimson jewel – one of reddest stars in the sky.
NGC 55 SCL (8)	00 15 -39 11	GX	7.9	32'x6'	Huge, mottled edge-on star-city over ½ degree long. 7,000,000LY
NGC 253 SCL (17)	00 48 -25 17	GX	7.1	25'x7'	Sculptor Galaxy. Big, bright & beautiful! Cigar-shaped – like a smaller

					Andromeda Galaxy – a wondrous sight! 7,500,000LY
M11 SCT (21)	18 51 -06 16	OC	5.8	14'	Smyth's Wild Duck Cluster. A rich, glittering fan-shaped swarm of some 500 suns with an 8 th -mag. star near apex – a beauty! 5,500LY
Milky Way SCT (1)	18 40 -06 00	GX	---	720'x540'	Scutum Star Cloud/Gem of the Milky Way. "Downtown Milky Way!" An amazing binocular & RFT starry wonderland! Sense 3-D "depth"!!
Delta SER (18)	15 35 +10 32	DS	4.2, 5.2	4"	Striking, neatly-paired double with off-white hues – elegant! 85LY
Theta SER (15)	18 56 +04 12	DS	4.5, 5.4	22"	Wider version of Delta SER. Pretty, easy pair for any glass. 140LY
M5 SER (21)	15 19 +02 05	GC	5.8	17'	M13 Rival. Magnificent stellar beehive – a starry blizzard! 25,000LY
M16/IC 4703 SER (13/0)	18 19 -13 47	OC/DN	6.0/---	25'/53'x28'	Eagle/Star Queen Nebula & Cluster. A faintly fog-bound nebulous star cluster. Site of iconic Hubble Space Telescope image. 8,000LY
IC 4756 SER (2)	18 39 +05 27	OC	4.5	70'	Big, bright scattered group of some 80 stars – binocular clan. 1,400LY
NGC 3115 SEX (12)	10 05 -07 43	GX	9.2	8'x3'	Spindle Galaxy. Elongated glow with bright center – typical elliptical galaxy shape but with pointy ends. 21,000,000LY
118 TAU (8)	05 29 +25 09	DS	5.8, 6.6	5"	Nicely-paired combo – blue-white & bluish. Pretty.
Alpha TAU (8)	04 36 +16 31	SS	0.8-1.0	---	Aldebaran. Lovely topaz gem projected against Hyades Cluster. 65LY
Theta-1/2 TAU (4)	04 29 +15 52	DS	3.4, 3.8	337"	Wide naked-eye/binocular pair in Hyades Cluster. White & yellow.
MEL 25 TAU (11)	04 29 +15 52	OC	0.5	330'	Hyades Cluster. Huge bright, striking V-shaped stellar clan abounding in star-pairs & colorful suns. A naked-eye & binocular wonder! 150LY
M1 TAU (20/0)	05 34 +22 01	SR	8.4	6'x4'	Rosse's Crab Nebula. Celebrated remnant of the 1054 AD supernova outburst with rapidly spinning neutron star/pulsar at core. An irregular pale elliptical glow with ragged edges. Neat close double Struve 742 (7.2, 7.8, 4") lies unsuspected in field. 6,300LY

M45 TAU (16)	03 47 +24 07	OC	1.2	110'	Pleiades Star Cluster. Brightest, best-known & finest OC in the entire heavens! A brilliant starry commune of blue-white diamonds! Naked-eye, binocular & telescopic wonder. A thrilling spectacle! 410LY
NGC 1514 TAU (2)	04 09 +30 47	PN	10.9	2'	A 9 th -mag. star-nucleus surrounded by a faint circular nebulosity. "A most singular phenomenon!" exclaimed Sir William Herschel.
Iota TRI (14)	02 12 +30 18	DS	5.3, 6.9	4"	Little-known, close but lovely gold & blue-green pair. 200LY
M33 TRI (19)	01 34 +30 39	GX	5.7	62'x39'	Pinwheel/Triangulum Galaxy. Big pale, face-on spiral with delicate arms & patches of nebulosity. A dark-night wonder! 3,600,000LY
Zeta/80 UMA (20)	13 24 +54 56	DS	2.3, 4.0, 4.0	14", 709"	Famed Mizar with Alcor nearby. Trio of radiant blue-white diamonds! All three suns are spectroscopic binaries (like many others here) & thus one vast sextuple system. First double star discovered (Riccioli). 78LY
Xi UMA (15)	11 18 +31 32	DS	4.3, 4.8	1.8"	A 60-year binary - first to have orbit determined (Savary). Has made three circuits since discovery! Twin yellowish suns in contact. 26LY
VY UMA (1)	10 45 +67 25	SS	5.9-6.5	---	Ruddy-orange beacon above the Big Dipper – visible year round.
M81/M82 UMA (20/20)	09 56 +69 04	GX	6.9/8.4	26'x14'/11'x5'	Bode's Nebulae. Finest galaxy pair in sky! M81 is a bright oblong spiral with vivid nucleus; M82 is a long, narrow curved ray crossed by dark rifts. Splendid sight – both floating serenely ½ deg. apart. 7,000,000LY
M97 UMA (17)	11 15 +55 01	PN	11.2	180"	Rosse's Owl Nebula. Large pale nebula with two subtle dark areas or "eyes" making it faintly bi-central. The cigar-shaped 10 th -mag. spiral M108 is in the same wide field 48' NW – a true celestial "odd couple"! The Owl lies 10,000LY away but the galaxy thousands of times as far.
M101 UMA (9)	14 03 +54 21	GX	7.7	27'x26'	Pinwheel Galaxy. Large, pale circular glow – a vast face-on spiral

					displaying much subtle detail on dark nights. 15,000,000LY
Alpha UMI (15)	02 32 +89 16	DS	1.9-2.1, 9.0	18"	Polaris. Mag.-contrast pair having amazing (apparent) "24-hour orbital period" caused by Earth's rotation! Brightest Cepheid in sky. 430LY
Gamma VEL (5)	08 10 -47 20	DS	1.8, 4.3	41"	Dazzling bluish pair – one of most beautiful in the heavens! 1,000LY
NGC 3132 VEL (8)	10 08 -40 26	PN	8.2	84"x52"	Eight-Burst Planetary. One of brightest in sky – white ellipse with 9th-magnitude central sun & hints of multiple rings! 2,000LY
Alpha VIR (2)	13 25 -11 10	SS	0.97	---	Spica. Icy-blue supersun more than 2,000 x Sun's luminosity. 250LY
Gamma VIR (21)	12 42 -01 27	DS	3.5, 3.5	3.0"	Porrima. Famed bright binary with 171-yr. period. Now opening up from its 2005 minimum separation, at which time the stars looked like some yellowish cosmic egg with slowly-turning long axis! 39LY
SS VIR (2)	12 25 +00 48	SS	6.0-9.6	---	Ruddy pulsating interstellar beacon – easily spied when at its brightest.
M84/M86/M87 VIR (9/8/7)	12 25 +12 53	GX	9.3/9.2/ 8.6	5'x4'/7'x6'/7'x7'	Coma-Virgo Galaxy Cluster. Three bright specimens (all giant elliptical galaxies) of the famed "Realm of the Nebulae." Here, hundreds of star-cities can be seen in small scopes – often several in the same eyepiece field – & more than 10,000 have been photographed! 70,000,000LY
M49 VIR (11)	12 30 +08 00	GX	8.4	9'x7'	Another bright elliptical positioned between two stars. 65,000,000LY
M59/M60 VIR (6/9)	12 42 +11 39	GX	9.8/8.8	5'x3'/7'x6'	Nice elliptical galaxy pair lying in same field 25' apart.
M61 VIR (7)	12 22 +04 28	GX	9.7	6'x6'	One of the many spirals in the C-V Cluster – face-on with two arms.
M104 VIR (15)	12 40 -11 37	GX	8.3	9'x4'	Sombrero Galaxy. One of brightest & most spectacular edge-on spirals in the sky! Bulbous glow with dark equatorial band. 28,000,000LY
NGC 4762 VIR (4)	12 53 +11 14	GX	10.2	9'x2'	The Kite. Thin edge-on like paper kite – dim galaxy NGC 4754 nearby.
3C273 VIR (1)	12 29 +02 03	GX	12.8	---	First Quasar. Also brightest & closest – visible in 4- to 6-inch glass as a

					dim bluish star despite its vast distance of 1,900,000,000LY!
COL 399 VUL (2)	19 25 +20 11	AS	3.6	60'	Coat Hanger Asterism/Brocchi's Cluster. Like an upside-down starry coat hanger in RFTscopes. Superb in binoculars (which show it erect)!
NGC 6940 VUL (7)	20 35 +28 18	OC	6.3	31'	More than 100 sparkling sapphires – brightest star ruby red! 2,500LY
M27 VUL (21)	20 00 +22 43	PN	7.6	8'x5'	Dumbbell Nebula. Next to the Ring Nebula, the finest & best-known object of its class! Like a big puffy celestial pillow serenely floating among the star stream of the MW, where it looks three-dimensionally suspended in space – a truly wondrous spectacle! 1,200LY

James Mullaney 1/2015

